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ABSTRACT

The influence of summer experiences on the re-enrollment pattern of students at the City University of New York was studied. Students who began as first-time freshmen in fall 1978 were evaluated over a 2-year period. Information was available for 21,079 students; however, 1,466 students who completed associate degrees during the study period were excluded from the analysis. Major study findings were as follows: during the summer, economically and educationally disadvantaged students were more likely to drop out of college than were advantaged students; during the school year, advantaged and disadvantaged students had an equal chance of remaining in college; the summer is particularly crucial for academically underprepared students, who are nearly twice as likely as other students to drop out over the summer; attendance at summer school largely offsets the influence of disadvantage on re-enrollment behavior; precollege economic deprivation alone was nearly unrelated to dropping out, while precollege academic disadvantage alone or in combination with economic disadvantage, was strongly related to leaving college; and academically disadvantaged students were about three times more dependent upon their grade performance for retention than were others. (SW)

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Summer Motivation and Retention

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PREFACE

The following report describes the influence of summer experiences on the re-enrollment pattern of students at The City University. It traces the experiences of students who began as first-time freshmen in Fall 1978 and follows them over a two-year period. The authors report that the summer months are crucial to the educational progress of disadvantaged students. By implication college based summer programs might serve to mitigate the influence of poor academic preparation on ultimate educational attainment.

"Summer Motivation and Retention", as the report is titled, is the first in a series of reports to be published as part of a long-term follow-up study of students who entered The City University of New York in the Fall of 1978. Robert Kapsis, the senior author, is a Professor of Sociology at Queens College. He has served as a consultant on the study almost from the start, with specific responsibility for analyzing program effects on student outcomes. In preparing this report, Professor Kapsis was joined by Mr. William Protash a researcher in The University's Office of Institutional Research and Analysis. The data file upon which this report is based was developed by Mr. Richard Wonder of the University Application Processing Center.

The 1978 Freshman Cohort study is a joint effort of the Office of Institutional Research and Analysis and the Office of Academic Affairs. It has been partially funded through a separate budget allocation for research on the SEEK program.

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SUMMARY

This study presents an exploratory analysis of summer experiences and educational commitment among undergraduate students at The City University of New York. Our results suggest that among disadvantaged students, particularly those performing poorly in college, pressures to drop out of school become strongest during the summer months when most students are out of school. By contrast, among more advantaged students, their out of school summer experiences, because they are educationally more diverse, serve to reinforce their commitment to schooling. The study's major findings are:

- During the summer economically and educationally disadvantaged students are more likely to drop out of college than advantaged students. However, during the school year (i.e., between fall and spring semesters) advantaged and disadvantaged students have an equal chance of remaining in college.

- The summer period is particularly crucial for students who begin college academically underprepared; students in this category are nearly twice as likely as other students to drop out over the summer.

- Attendance at summer school largely offsets the influence of disadvantage on re-enrollment behavior,

suggesting that summer learning may be important in reducing the effects of prior disadvantage. Specifically, among students who attend summer school, fall re-enrollment occurs at nearly identical rates for advantaged and disadvantaged students: 93% of the most advantaged and 89% of the least advantaged enroll for their fifth college semester after attending summer school for two years in a row.

- Pre-college economic deprivation alone is nearly unrelated to dropping out while pre-college academic disadvantage alone or in combination with economic disadvantage, is strongly related to leaving college.

- Academically disadvantaged students are approximately three times more dependent upon their grade performance for retention than others. For the academically underprepared, grades are strongly related to retention; for those better prepared for college, grades make much less of a difference. Poor grade performance is particularly influential for the fall registration of disadvantaged students. Poor grades at the end of the spring semester are considerably more likely to lead the educationally disadvantaged away from college than more privileged students.

The findings from this study along with earlier reports on the SEEK Pre-Freshmen Summer Program at The City University suggest that summer education might strengthen students' commitment to education, thereby reducing the effects of prior disadvantage.

INTRODUCTION

A recurrent theme in research on inequality is the relative importance of education and family background in the achievement of children. Against the background of Lyndon Johnson's Great Society program of the early 1960s, it was widely believed that the way to improve the life chances of the poor was to increase their opportunities for education. Thus emerged the assumption that remedial and compensatory programs at all levels of schooling would serve to offset the educational disadvantages of the poor.

Beginning with the survey conducted for Equality of Educational Opportunity (Coleman et al., 1966), evidence started to accumulate that the impact of family background far outweighed the differences between schools and between educational programs on student achievement. Despite impressive evidence to the contrary (e.g., Jencks, et al. 1972), most educators still believe that schooling has a substantial impact on cognitive development but recognize that the effect of schooling is difficult if not impossible to measure. They reason that "most schools just do not differ that much from one another and that, given a system of compulsory education, it is almost impossible to measure the effects" (Eckland, 1980: 799).

A way out of this methodological dilemma is provided by Barbara Heyns (1978) who treats the summer months as a period

when most students are not in school (and schools could have no effects) and when family influences could be strongest. In Heyns' orientation the influence of family is continuous throughout the year, whereas that of the school is intermittent in that most students are not enrolled in school during the summer. In her analysis of sixth and seventh grade students in Atlanta, Georgia, Heyns found that during the summer months (spring to fall), family economic status and race, independent of individual differences in achievement, became substantially more important as determinants of cognitive growth than during the school year (fall to spring). According to Heyns:

> School does not equalize outcomes in any absolute sense; during both the school year and the summer, relatively advantaged students learn at a faster rate than do less privileged pupils. Disadvantaged children, however, show a higher rate of relative achievement during the school years than during the summer. The gap between black and white children, and between low- and high-income children widens disproportionately during the months when schools are not in session. Schooling apparently attenuates the influence of socioeconomic status on achievement and thereby reduces the direct dependence of outcomes on family background. The effect is common to every skill or subject tested for either racial group and persists irrespective of other controls (Heyns, 1978: 187).

The major accomplishment of the Heyns study was in demonstrating the importance of schooling for the cognitive development of grammar school children. However, her conclusion should also be applicable to high school and college students. Indeed, some research studies currently in progress (e.g., "High

School and Beyond," sponsored by the National Center for Education Statistics) are examining the impact of higher education on cognitive growth. Our report is the first to apply the Heyns perspective to the issue of college retention.

In view of the prospect of declining enrollments throughout the 1980s, increasing attention has been placed on efforts to keep students in college as is evident from the large number of studies on this subject published recently (Lenning, Sauer, and Beal, 1980: 1). While several studies have focused on the practical application of retention strategies and their effectiveness in lowering the college drop-out rate, to our knowledge, none has explored the possible effect of summer school attendance in raising retention rates, especially among educationally and economically disadvantaged students.

We explore this issue for a recent freshmen cohort at The City University of New York. The City University is the third largest university in the United States, enrolling approximately 176,000 students, most of whom come from the five boroughs of New York City. As an open access institution, The City University enrolls large numbers of students who begin college with educational and economic disadvantages. Because of its open access policy, size, and location in a major urban center, The City University is particularly suitable for exploring whether the Heyns thesis is applicable to socially heterogeneous college populations.

Following Heyns, we expect differences in the retention rates of advantaged and disadvantaged students to widen at a greater rate between the spring and fall semesters than during the school year. Family and peer pressures have a greater adverse effect on disadvantaged students during the summer than between the fall and spring semesters when schooling to a great extent should attenuate the influence of family and peers on retention. Among disadvantaged students, particularly those performing poorly in college, family and peer pressures to drop out of school are strongest and most effective during the summer months when the vast majority of college students are out of school (cf. Iffert, 1957; Barger and Hall, 1964). By contrast, among more advantaged students, their out of school summer experiences should reinforce their commitment to schooling. Indeed, advantaged students can better afford the luxury of doing poorly during their first two years in college and yet remain committed to completing school than can disadvantaged students who are inclined to interpret their poor college performance as confirmation that they are cognitively ill-equipped for college and, therefore, owe it to their families to drop out and secure a full-time job. Peer pressures may also force disadvantaged college students out of college, especially those performing poorly in school. Thus, disadvantaged students are especially vulnerable during the summer months.

However, for those attending summer school, we would expect a weak correlation between level of disadvantage and fall

re-enrollment, that is, a correlation analogous to the low association between level of disadvantage and spring retention we hypothesized earlier for students enrolled the previous fall. This argument assumes that summer school attendance is effective in raising retention rates and that the effectiveness of summer school is a product of not only improving the cognitive skills of participants but also in strengthening their commitment to education against countervailing pressures from peers and family.

In this paper, we will distinguish between two types of pre-college deprivations -- economic and educational -- and examine how they independently and conjointly influence college retention rates over several semesters. One would expect college students from low-income family backgrounds to feel pressures from their families to drop out of college and secure a job, especially if they are performing poorly in school. However, high academic achievers from economically impoverished backgrounds should also feel these pressures. Accordingly, they would be expected to drop out at a higher rate, especially during the summer, than their counterparts among more affluent students. To test this strictly economic argument, we will use information which taps family income at the time each student first entered the University. However, as shall be demonstrated later in this report, pre-college educational disadvantages far outweigh pre-college economic disadvantages in influencing college retention rates. By educational disadvantage, we mean something more general than simply cognitive deficiencies. College

students brought up by parents who are committed to education and to diverse cosmopolitan experiences are "more educationally advantaged" than students exposed to the usual localized social activities commonly associated with socially and culturally deprived backgrounds.

Heyns, for example, reports that rich children learned at the same rate during the summer as they did during the school year. Moreover, she uncovered three experiences that correlated significantly with summer learning -- (1) students who attended summer school a greater distance from their own home than their usual neighborhood school learned more than those who attended summer school in the local program; (2) children who went on trips away from home (especially those permitted to travel alone) learned more; and (3) children who owned bicycles learned more. As Randall Collins (1981) has astutely observed, all three correlates of summer learning in the Heyns' study are indicators of "diverse/cosmopolitan social experiences in contrast to the usual localized social routine of working class children. Since middle class children's lives are usually more cosmopolitan and diverse than working class children's lives, middle class children will learn more as a matter of course" (p. 841). We might add that persons exposed to a diverse learning environment will also develop a greater commitment to education independent of monetary or other pragmatic considerations. A college education may or may not prepare one for the job market. But a good college education prepares one for life.

In the present study, high school academic average is employed as a proxy for such pre-college educational disadvantages. Several studies (e.g., Wilensky, 1964) suggest that parental commitment to education and other diverse cosmopolitan learning experiences are powerful predictors of subsequent school performance among offspring. While more direct measures of parental outlook would be preferable here, we believe that high school average will roughly differentiate students exposed to diverse learning experiences from those who are not.

DATA AND METHODS

To test the validity of the summer motivation thesis, we analyzed longitudinal data spanning two and one half years on all students who enrolled at the senior (Bachelor degree programs) and community colleges (Associate degree programs) of The City University of New York as full-time freshmen in the Fall of 1978. Complete information was available for 21,079 students. We eliminated from the analysis all those who earned degrees within the period under study, since our major dependent variable was retention rates. This group consisted almost entirely of Associate degree recipients who finished in the conventional two year period (N=1466).*

The City University of New York is made up of eight senior colleges and nine community colleges. Admission to most of the senior colleges requires having an academic high school average of 80 or ranking in the top third of one's high school class. To gain admission to any of the community colleges, applicants need only have a high school diploma or equivalency. In addition to these basic admissions criteria, The City University admits underprepared students into senior or community colleges through special programs: SEEK (Search for Education, Elevation and

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*Were graduates to be included as retained the results would not be significantly altered, if anything summer patterns would be more pronounced.

Knowledge) at the senior colleges, College Discovery at the community colleges. These programs were instituted during the mid 1960's prior to the beginning of The City University's open admissions policy as a way of providing college access to disadvantaged students. Special program students are by definition disadvantaged -- both academically and economically -- and are therefore a natural group for which to test summer school hypotheses. As a result of the open admissions policy which began in 1970 and was modified in 1976, a considerable number of academically underprepared and/or economically disadvantaged students gain admission to senior or community colleges as regular program students, thus providing more cases to test the hypotheses. Academically disadvantaged regular senior college students are mainly those who do not have an 80 high school average but rank in the top third of their class. General equivalency diploma recipients who gained admission to senior college regular programs are also academically disadvantaged relative to the average senior college enrollee at The City University in that they have completed significantly less academic coursework.

Re-enrollment rates, our dependent variables, were calculated for Spring 79, Summer 79, Fall 79, Spring 80, Summer 80, Fall 80 and Spring 81. These rates reflect the total number of students registered for the semester in question as a percentage of the total number of students who registered in the Fall 1978 semester as first time freshmen. Cumulative grade

point average, measured at the end of each semester considered, is used as our measure of academic success. Grade point averages were calculated by dividing the sum of quality points a student earned in their coursework by the total number of regular (i.e., non-remedial) college credits they attempted; quality points are numerical conversions of conventional letter grades.

We employ two measures of pre-college disadvantage. The first, high school academic average,* was employed as our measure of pre-college educational disadvantage. Senior college students with high school averages below 80 and community college students with high school averages below 75 were placed in this category, in addition to students with general equivalency diplomas.

The second background measure, gross family income at time of entrance to The City University, was used to measure pre-college economic disadvantage. As with our pre-college academic measure, we dichotomized the economic measure, using the 1978 poverty line of $7500 as our cut-off for coding students as economically disadvantaged. We then combined our two measures into an index of "disadvantage" (see Figure 1).

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*This is actually the college admissions average and is computed from grades earned in academic subjects in high school.

FIGURE 1: DISADVANTAGE CATEGORIES

		Academic Background: Low	Academic Background: High
Economic Background	Low	Disadvantaged	Economically disadvantaged
	High	Educationally disadvantaged	Advantaged

Analyses were performed separately for senior and community colleges and for the total cohort. Tables are presented for the total cohort since we found only slight differences in results when analyzing the data by college level. These differences do not affect the conclusions.

RESULTS

Tables 1 and 2 present re-enrollment rates for the 1978 freshmen class over five consecutive semesters and broken down by level of disadvantage. In Table 1, the re-enrollment rates represent the percentage of the 1978 freshmen class who registered for the semester in question. Accordingly, the table shows a decline over time in the percent of students retained since the denominator for each retention calculation -- the total number of first-time freshmen enrolled in fall 1978 -- remains the same. By contrast, the semester re-enrollment rates presented in Table 2 reflect only those students in the 1978 freshmen class enrolled in the semester immediately prior to the one under examination. (Students who dropped out for one or more semesters and returned later -- stop outs -- are not included in our analysis.) To illustrate, in Table 2 the fall 1980 re-enrollment rate for disadvantaged students is 67 percent. This figure reflects the percentage of disadvantaged students enrolled in spring 1980 and who re-enrolled in fall 1980.

Compatible with the summer motivation thesis, Tables 1 and 2 show that the disparity in retention rates between the most and least advantaged students increases at a greater rate during the summer than during the school year (between the fall and spring semesters). For example, among students enrolled in fall 1978 (see either Table 1 or Table 2), we find that subgroup differences in re-enrollment behavior for spring 1979 are small.

Indeed, the spring 1979 enrollment rate for the most advantaged group is only 4 percentage points higher than for the least advantaged (89 percent versus 85 percent). By contrast, when we examine the fall 1979 retention rate for those enrolled the previous semester (see Table 2), we find that the retention rate for the most advantaged group is dramatically higher than for the least advantaged group (85 percent re-enrolled versus 71 percent). Moving forward to spring 1980, the disparity in retention between the most advantaged and most disadvantaged students is dramatically reduced (by eight percentage points), paralleling the pattern for the previous year. These subgroup patterns are repeated throughout the 1978 cohort's first five semesters at The City University and provide strong preliminary support for the summer motivation thesis.

Up until now, the discussion has been limited to comparison between the two extreme subgroups -- the "advantaged" and the "disadvantaged." For the less extreme subgroups (the "economically disadvantaged" and "educationally disadvantaged"), the results are less clear-cut than expected since we found that only the "educationally disadvantaged" subgroup mirrored the semester by semester re-enrollment patter of the most disadvantaged group.

In 1979, for example, spring and fall re-enrollment figures for the "educationally disadvantaged" subgroup are 81 percent and 76 percent, respectively, compared to 85 percent and 71 percent

for the "disadvantaged" group (see Table 2). In other words, the re-enrollment patterns for these two groups are remarkably similar. Indeed, the retention patterns for the "educationally disadvantaged" and "disadvantaged" sub-groups remain alike in 1980 and 1981. By contrast, for the "economically disadvantaged" subgroup, we find that the semester by semester pattern is almost identical to that of the most advantaged group. For 1979, spring and fall re-enrollment rates for the "economically disadvantaged" subgroup are 90 percent and 82 percent, respectively, compared to 89 percent and 85 percent for the "advantaged" group (see Table 2). These patterns are also repeated in 1980 and 1981. In addition to supporting the summer motivation thesis, the above findings underscore the importance of pre-college educational advantage as a predictor of college retention. In effect, academic preparation is a far more salient factor than poverty in explaining the attrition of college students.

What is the effect of summer school attendance on retention? Tables 4 and 5 show that for all four subgroups, those who attended summer school were more likely to re-enroll the following fall than those not attending a summer program. For example, among the most disadvantaged students, 93 percent of those who attended summer session in 1979 re-enrolled the following fall as opposed to only 68 percent of non-attenders (see Table 4). And, as indicated in Table 6, the positive effect of summer school attendance on retention is cumulative. Students who attended summer programs during two successive years were

more likely to re-enroll in fall 1980 than those who attended summer school only once. This effect is most pronounced for the "disadvantaged" group.

As another way of testing the summer thesis, we examined the correlation between college performance (as measured by cumulative grade point average) and retention by level of disadvantage. Recall that, according to the summer thesis, disadvantaged students who perform poorly in college are more likely to drop out than their counterparts among advantaged students, who despite bad grades, should remain committed to schooling because of their earlier exposure to more diverse learning experiences. As shown in Table 3, in all five semesters, the correlations between cumulative grade point average (GPA) and retention are stronger for disadvantaged than for advantaged students. Moreover, as hypothesized, between group differences in the strength of the correlation widened over the summer. For example, for students enrolled continuously through fall 1979, the correlation between GPA and spring 1980 retention is .250 for the most advantaged and .275 for the least advantaged. By contrast, for students enrolled continuously through spring 1980, the correlation between GPA and fall 1980 retention is .234 for the most advantaged and .447 for the least advantaged. In other words, the between group difference in the strength of the correlation widened dramatically over the summer, from spring to fall 1980. This pattern persists throughout all the semesters surveyed. While for the most advantaged group, the

correlations between GPA and retention become weaker in each succeeding semester, the correlations for the most disadvantaged group become stronger after the summer and then weaken during the academic year only to become noticeably stronger again after the following summer.

Of course, what appears as a summer school effect in the present study could actually be an artifact of not having controlled for background differences between those who enrolled in summer school and those who did not. Indeed, our data show that those who attend a summer session are better students (as measured by cumulative grade point average) than non-attenders and that better students are more likely to re-enroll. For example, 55 percent of 1979 summer school attenders are "good" students as opposed to only 35 percent of non-attenders. Moreover, as Tables 7 and 8 document, regardless of level of disadvantage, students with a high GPA are more likely to re-enroll the following fall than those with a low GPA. For example, among the "disadvantaged" group who were enrolled in spring 1979, we find that 89 percent of those with high GPAs re-enrolled in fall 1979 as opposed to only 65 percent of those with low GPAs.

Nonetheless, even after controlling for pre-summer school differences in academic performance, the summer school effect, though weaker, persists (see Tables 9, 10, and 11). Thus, within the group who performed poorly in college through spring 1979, we

find from Table 9 that 88 percent of those attending summer school re-enrolled in fall 1979 compared to only 59 percent of non-attenders; and the re-enrollment effect for those attending summer sessions holds for those with high GPAs as well.

According to the summer motivation perspective, the relationship between level of disadvantage and fall re-enrollment among summer school attenders should be analogous to the relationship between level of disadvantage and spring retention among students enrolled the previous fall. That is, among summer school attenders, differences between advantaged and disadvantaged students should be minimal. The data reported in Tables 4 and 5 support this expectation. Among 1979 summer school attenders, for example, the fall 1979 re-enrollment rate is 94 percent for the most advantaged students and 93 percent for the least advantaged (see Table 4). By contrast, among students not attending summer school that year, there is a substantial difference in the fall 1979 re-enrollment rate between the least and most advantaged ones (68 percent versus 82 percent).

As a final test of the summer thesis, we explored the possible meaning of low academic achievement among students from disadvantaged backgrounds. According to the summer thesis, differences in retention between advantaged and disadvantaged students should be most pronounced among low achievers since unlike disadvantaged students, those from more privileged

backgrounds would be expected to have the motivation to complete college regardless of their performance in school.

Alternatively, it could be argued that differences in retention between advantaged and disadvantaged students simply reflect differences in college performance. That is, students from disadvantaged backgrounds perform poorly in college and, in turn, students who do poorly, are more likely to drop out. According to this view, college performance functions as a consequence of pre-college advantage and as a cause of high re-enrollment rates. If college achievement functions as a intervening test factor, then holding it constant would cause the retention rate differences between advantaged and disadvantaged students to sharply decline or disappear. By contrast, the summer motivational thesis would predict that among low achievers, subgroup differences in the fall retention rate will persist, particularly among those who do not attend summer school while among high achievers, subgroup differences would be small. Tables 9 and 10 present retention rates in fall 1979 and fall 1980 by level of disadvantage after controls have been introduced for summer school status and cumulative grade point average. As predicted by the summer motivation thesis, subgroup differences in retention were greatest among low (GPA) achievers who did not attend summer school. For low (GPA) achievers who enrolled in a summer session, differences were less dramatic. In 1979, for example, among low achievers who did not attend summer school, 67 percent of the most advantaged but only 59 percent of the

least advantaged re-enrolled the following fall, while for low achievers who did attend summer school, the comparable figures are 91 percent and 88 percent, respectively. Among high achievers, on the other hand, differences between advantaged and disadvantaged students were minimal regardless of whether they attended summer school. These findings further support the summer thesis.

CONCLUSION

The results of these analyses strongly suggest that efforts at equalizing educational outcomes should focus on increasing the amount of time that disadvantaged students spend in school rather than simply through efforts at improving the quality of their school (as, for example, through improving the quality of remedial education). Commenting on the shift in his research after 1971, Christopher Jencks writes in his forward to the Heyns book:

> ...our attention had begun to shift away from the effects of school quality to the effects of quantitative differences in exposure to schooling. This shift in interest reflected the fact that our research consistently showed that while improving the school quality had little long-term impact on any tangible outcome, an extra year of schooling still raised men's occupational status and earnings, even after controlling family background and initial ability (xv).

One obvious reason why schooling affects economic success is that it reduces cognitive inequality between advantaged and disadvantaged groups. The research reported in this paper suggests that another reason for the school effect is that more schooling reduces differences in educational commitment between advantaged and disadvantaged groups which indirectly results in greater equality of outcome (a college degree, a high paying job, and so on).

Finally, the findings on the effect of summer school should alert us to the potential importance (especially for educationally disadvantaged students who are the least likely to attend summer school) that summer programs hold for enhancing educational opportunity. However, before restructuring CUNY's summer programs (e.g., by making them more attractive to students through economic inducements), we recommend that a longitudinal attitudinal survey study be conducted in order that we can rigorously control for possible motivational differences that may distinguish students who enroll in CUNY's summer programs from those that do not.

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TABLE 1

FALL 1978 FIRST-TIME FULL-TIME FRESHMAN:
RETENTION OVER SIX SEMESTERS BY LEVEL OF DISADVANTAGE

Level of Disadvantage	Percent Retained by Semester									
	Spring 1979		Fall 1979		Spring 1980		Fall 1980		Spring 1981	
	%	N	%	N	%	N	%	N	%	N
Advantaged	88.9	(5243)	76.1	(5243)	71.3	(5243)	61.4	(5154)	59.0	(5057)
Economically disadvantaged	89.8	(2740)	74.3	(2740)	70.2	(2740)	59.5	(2698)	55.7	(2649)
Educationally disadvantaged	81.3	(5156)	62.9	(5156)	57.4	(5156)	43.7	(5119)	41.0	(5043)
Disadvantaged	85.3	(7940)	62.3	(7940)	56.8	(7940)	40.0	(7920)	37.4	(7872)

TABLE 2

FALL 1978 FIRST-TIME FULL-TIME FRESHMAN:
RETENTION OVER SIX SEMESTERS UP TO SEMESTER IN
WHICH RETENTION RATE IS CALCULATED BY LEVEL OF DISADVANTAGE

Level of Disadvantage	Percent Retained by Semester									
	Spring 1979		Fall 1979		Spring 1980		Fall 1980		Spring 1981	
	%	N	%	N	%	N	%	N	%	N
Advantaged	88.9	(5243)	84.6	(4452)	91.7	(3629)	85.3	(3131)	94.4	(2448)
Economically disadvantaged	89.8	(2740)	81.5	(2388)	92.2	(1887)	84.1	(1645)	92.0	(1279)
Educationally disadvantaged	81.3	(5156)	75.7	(3909)	88.6	(2749)	73.4	(2259)	91.0	(1471)
Disadvantaged	85.3	(7940)	71.2	(6566)	87.0	(4512)	67.4	(3779)	86.1	(2370)

TABLE 3

CORRELATIONS OF CUMULATIVE GRADE POINT
AVERAGE AND RETENTION OVER FIVE SEMESTERS FOR
CONTINUOUS STUDENTS ENROLLED IN PREVIOUS SEMESTER

Level of Disadvantage	Spring 1979		Fall 1979		Spring 1980		Fall 1980		Spring 1981	
	r	N	r	N	r	N	r	N	r	N
Advantaged	.347	(5091)	.284	(4439)	.250	(3628)	.234	(3131)	.181	(2448)
Economically disadvantaged	.379	(2646)	.370	(2378)	.267	(1886)	.305	(1644)	.323	(1279)
Educationally disadvantaged	.377	(4849)	.328	(3884)	.271	(2749)	.442	(2259)	.203	(1471)
Disadvantaged	.381	(7296)	.437	(6495)	.275	(4510)	.447	(3779)	.300	(2370)

TABLE 4

FALL 1979 RETENTION RATE BY SUMMER PROGRAM STATUS AND LEVEL OF DISADVANTAGE FOR CONTINUOUS STUDENTS ENROLLED THROUGH SPRING 1979
(Fall 1978 First-Time Full-Time Freshmen Only)

Level of Disadvantage	Percent Retained Fall 1979			
	Not Enrolled Summer 1979		Enrolled Summer 1979	
	%	N	%	N
Advantaged	81.8	(3426)	94.1	(1026)
Economically disadvantaged	77.5	(1878)	96.1	(510)
Educationally disadvantaged	72.3	(3208)	91.0	(701)
Disadvantaged	68.4	(5807)	92.6	(759)

TABLE 5

FALL 1980 RETENTION RATE BY SUMMER PROGRAM STATUS AND LEVEL OF DISADVANTAGE FOR CONTINUOUS STUDENTS ENROLLED THROUGH SPRING 1980
(Fall 1978 First-Time Full-Time Freshmen Only)

Level of Disadvantage	Percent Retained Fall 1980			
	Not Enrolled Summer 1979		Enrolled Summer 1979	
	%	N	%	N
Advantaged	81.5	(2111)	93.2	(1020)
Economically disadvantaged	80.0	(1177)	94.2	(468)
Educationally disadvantaged	69.1	(1691)	86.1	(568)
Disadvantaged	62.9	(3114)	88.0	(665)

TABLE 6

FALL 1980 RETENTION RATE BY NUMBER OF SUMMER SESSIONS ATTENDED AND LEVEL OF DISADVANTAGE FOR CONTINUOUS STUDENTS ENROLLED THROUGH SPRING 1980 (Fall 1978 First-Time Full-Time Freshmen Only)

Level of Disadvantage	Percent Retained Fall 1980					
	No Summers		One Summer		Two Summers	
	%	N	%	N	%	N
Advantaged	80.3	(1694)	90.5	(1028)	92.9	(409)
Economically disadvantaged	79.3	(964)	87.0	(463)	95.0	(218)
Educationally disadvantaged	69.3	(1410)	78.1	(607)	85.6	(242)
Disadvantaged	62.6	(2764)	77.6	(773)	88.8	(242)

TABLE 7

FALL 1979 RETENTION RATE BY CUMULATIVE
GRADE POINT AVERAGE AND LEVEL OF DISADVANTAGE
FOR CONTINUOUS STUDENTS ENROLLED THROUGH SPRING 1979
(Fall 1978 First-Time Full-Time Freshmen Only)

Level of Disadvantage	Percent Retained Fall 1979			
	Low GPA		High GPA	
	%	N	%	N
Advantaged	76.5	(1734)	90.1	(2705)
Economically disadvantaged	71.1	(2584)	85.7	(1295)
Educationally disadvantaged	72.5	(1141)	90.2	(1237)
Disadvantaged	64.7	(4670)	89.1	(1825)

TABLE 8

FALL 1980 RETENTION RATE BY CUMULATIVE
GRADE POINT AVERAGE AND LEVEL OF DISADVANTAGE
FOR CONTINUOUS STUDENTS ENROLLED THROUGH SPRING 1980
(Fall 1978 First-Time Full-Time Freshmen Only)

Level of Disadvantage	Percent Retained Fall 1979			
	Low GPA		High GPA	
	%	N	%	N
Advantaged	78.5	(1191)	89.5	(1940)
Economically disadvantaged	65.2	(1532)	90.6	(727)
Educationally disadvantaged	74.1	(741)	92.4	(903)
Disadvantaged	61.2	(2888)	87.3	(891)

TABLE 9

FALL 1979 RETENTION RATE BY LEVEL
OF DISADVANTAGE CONTROLLING FOR SUMMER
SCHOOL STATUS AND CUMULATIVE GRADE POINT AVERAGE

Level of Disadvantage	Percent Retained Fall 1979							
	Not Enrolled Summer 1979				Enrolled Summer 1979			
	Low GPA		High GPA		Low GPA		High GPA	
	%	N	%	N	%	N	%	N
Advantaged	66.7	(1093)	86.8	(2502)	91.1	(224)	94.6	(826)
Economically disadvantaged	62.4	(768)	86.9	(1158)	92.0	(137)	97.4	(386)
Educationally disadvantaged	63.2	(2016)	83.0	(1407)	86.0	(300)	94.5	(436)
Disadvantaged	58.6	(3829)	86.4	(2080)	87.8	(353)	96.0	(429)

TABLE 10

FALL 1980 RETENTION RATE BY LEVEL
OF DISADVANTAGE CONTROLLING FOR SUMMER
SCHOOL STATUS AND CUMULATIVE GRADE POINT AVERAGE

Level of Disadvantage	Percent Retained Fall 1980							
	Not Enrolled Summer 1980				Enrolled Summer 1980			
	Low GPA		High GPA		Low GPA		High GPA	
	%	N	%	N	%	N	%	N
Advantaged	64.2	(676)	86.3	(1678)	83.3	(234)	95.4	(867)
Economically disadvantaged	62.6	(489)	89.5	(792)	88.7	(115)	95.0	(380)
Educationally disadvantaged	52.4	(1192)	87.4	(825)	72.8	(276)	94.0	(366)
Disadvantaged	51.9	(2337)	83.8	(1052)	77.8	(329)	95.2	(337)

TABLE 11

FALL 1980 RETENTION RATE BY NUMBER OF SUMMER SESSIONS ATTENDED AND LEVEL OF DISADVANTAGE CONTROLLING FOR CUMULATIVE GRADE POINT AVERAGE

	Percent Retained Fall 1980											
	Low Cumulative Grade Point						High Cumulative Grade Point					
	No Summer		One Summer		Two Summers		No Summers		One Summer		Two Summers	
Level of Disadvantage	%	N	%	N	%	N	%	N	%	N	%	N
Advantaged	62.9	(571)	78.8	(250)	82.0	(89)	85.6	(1331)	93.1	(860)	94.6	(354)
Economically disadvantaged	62.9	(410)	73.8	(149)	88.9	(45)	88.7	(637)	94.0	(350)	95.1	(185)
Edcuationally disadvantaged	52.7	(1008)	61.8	(364)	72.9	(96)	88.2	(672)	91.1	(337)	90.7	(182)
Disadvantaged	51.9	(2107)	65.1	(456)	76.7	(103)	83.5	(893)	90.6	(382)	96.1	(154)